

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
26 July 2001 (26.07.2001)

PCT

(10) International Publication Number  
**WO 01/54458 A3**

(51) International Patent Classification<sup>7</sup>: **H04R 25/00**

8HW (GB). RUZICKA, Jerome, Charles; 16110-46th Avenue North, Plymouth, MN 55446 (US).

(21) International Application Number: PCT/US01/01663

(22) International Filing Date: 18 January 2001 (18.01.2001)

(74) Agent: VIKSNINS, Ann, S.; Schwegman, Lundberg, Woessner & Kluth, P.O. Box 2938, Minneapolis, MN 55402 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
09/492,913 20 January 2000 (20.01.2000) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

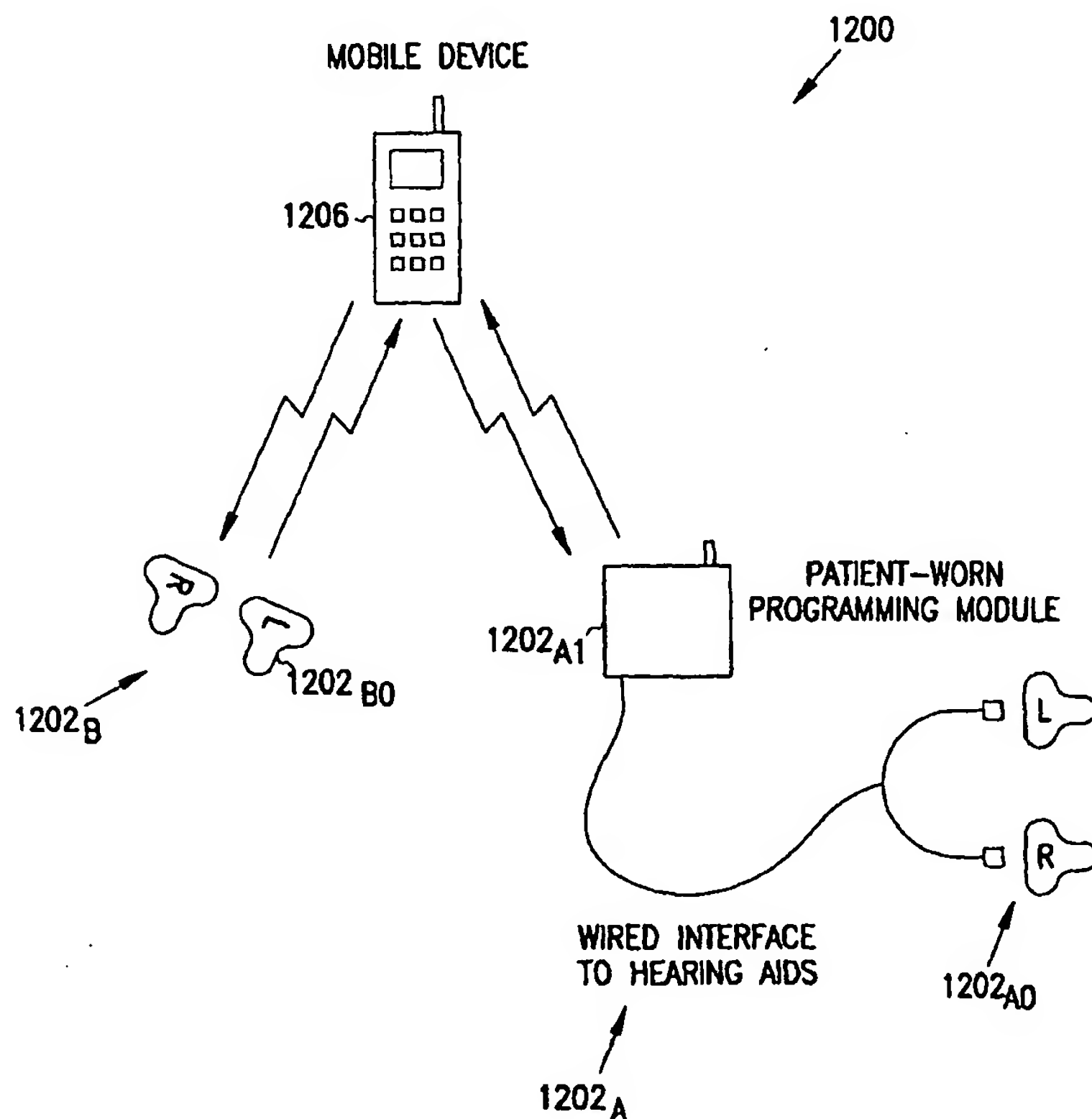
(71) Applicant: **STARKEY LABORATORIES, INC.**  
[US/US]; 6600 Washington Avenue South, Eden Prairie, MN 55344 (US).

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

(72) Inventors: **EATON, Anthony, M.**; Cedar Terrace #7, Thackhams Lane, Hartley Wintney, Hampshire RG27

[Continued on next page]

(54) Title: HEARING AID SYSTEMS



(57) Abstract: Systems, structures, and methods are provided to fit, program, or upgrade a hearing aid system to a patient. One embodiment includes the use of a mobile device to interact with the hearing aid system through a short-range network. The mobile device is also adapted to communicate with a server through a long-range wireless network. The server may reside on the Internet.

WO 01/54458 A3



IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:  
21 February 2002

**Published:**

--- with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/01663

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H04R25/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04R G06F H04B H04L A22C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 51124 A (ROLM SYSTEMS) 12 November 1998 (1998-11-12)	1-31, 33, 41, 44-63, 65
A	page 2, line 13-19 page 3, line 17 -page 11, line 2	32, 42, 43, 64, 68-70, 72-92
A	DE 196 00 234 A (AURIC HOERSYSTEME GMBH & CO KG) 10 July 1997 (1997-07-10) column 1, line 43 -column 2, line 10 column 2, line 15 -column 4, line 8 -/--	1-46

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

13 November 2001

Date of mailing of the international search report

19/11/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Zanti, P

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/01663

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 195 41 648 A (SIEMENS AUDIOLOGISCHE TECHNIK) 15 May 1997 (1997-05-15) column 1, line 3-12 column 2, line 32-64 column 3, line 15 -column 5, line 50 ---	1-14
A	US 5 987 513 A (RAVINDRAN VIJI KAKKATTU ET AL) 16 November 1999 (1999-11-16)  column 1, line 6-9 column 2, line 47 -column 5, line 5 column 6, line 4 -column 28, line 43 -----	15, 34-40, 42,43, 47,66, 67,72

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte. .ional Application No

PCT/US 01/01663

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9851124	A	12-11-1998	AU 733862 B2	31-05-2001
			AU 6793798 A	27-11-1998
			CN 1262023 T	02-08-2000
			EP 0979591 A1	16-02-2000
			WO 9851124 A1	12-11-1998
DE 19600234	A	10-07-1997	DE 19600234 A1	10-07-1997
DE 19541648	A	15-05-1997	DE 19541648 A1	15-05-1997
			DE 29522130 U1	03-02-2000
US 5987513	A	16-11-1999	NONE	